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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,737	12/08/2003	Dan Kalas	81206-243306	3972

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EXAMINER

TSOY, ELENA

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/730,737	Applicant(s) KALAS ET AL. c	
	Examiner Elena Tsoy	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/8/03</u> . | 6) <input type="checkbox"/> Other: _____ |

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Specification

1. The disclosure is objected to because of the following informalities: "and the solution may created by dissolving" on page 6, line 8, should be changed to -- and the solution may be created by dissolving --.

Claim Objections

2. Claim 19 is objected to because of the following informalities: "a outer" should be changed to -- an outer --.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 19-22, 25, 26, 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen et al (20030104178) in view of Kotler (US 6,452,200).

Petersen et al disclose a method of making a radiation source (See 0014), said method comprising: printing a deposited solution comprising a conventional ink and a solvent (See 0052) on a substrate using ink jet printing device, i.e. positioning a substrate relative to ink jet print head (a liquid deposition head having an opening through which a deposited solution may be deposited onto a portion of a front surface of said substrate) to form a specified radioactive deposit (See 0052); drying the substrate (See 0040), i.e. removing a solvent from said deposited solution; and applying a sealing layer to cover the radioactive deposit (See 0042), thereby fixing the position of the radioactive deposit on said front surface (See 0043). The substrate is

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preferably a (flexible) sheet or foil (See 0022), which can be processed by calendering (continuous web) (See 0041). The radiation flood source may be in any desired shape (See 0032) (i.e. the coated substrate can be cut in desired shape).

Petersen et al fail to teach that the coated substrate is placed into an outer housing by opening the outer housing having a fastener and placing the substrate within said outer housing (Claim 19).

Kotler teaches that containers for housing a source of radioactive material are conventionally formed of thick walls made of a shielding material, wherein, access to the interior of the container employs the use of a tightly fitting removable closure such as lids of different diameters that screw into two threaded portions of the container (See column 1, lines 6-12; column 2, lines 35-39). In other words, a secondary reference of Kotler is relied upon to show that placing a source of radioactive material into a housing by opening the housing having fastener is conventional and known in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have placed the coated substrate in Petersen et al into an outer housing by opening the housing having fastener and placing the substrate within said outer housing with the expectation of providing the desired shielding, since Kotler teaches that placing a source of radioactive material into a shielding housing by opening the housing having fastener is conventional and known in the art.

As to claims 21, 31, 32, Petersen et al teach that the process of printing the radioactive solution can be carried out on a used or older reaction flood source having reduced radioactivity which allows to re-increase its emitted radiation and thus its re-use with a smaller amount of

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activity than required for new sources (See 0045). Petersen et al further teach that for these used radiation flood sources, which would otherwise have to be disposed off, printing of a second or following coating allows to **restore** or re-increase their radioactivity to once again provide a radiation flood source ready to use, thereby effectively allowing recycling of the radiation flood sources (See 0046). It is the Examiner's position that in order to *restore* radioactivity, one should measure the radioactivity of used depleted sources and design the *restored* radioactivity based on the difference between the desired radioactivity and depleted radioactivity.

5. Claims 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen et al (20030104178) in view of Kotler (US 6,452,200), further in view of Ohno et al (US 3,604,394).

Petersen et al in view of Kotler, as applied above, fail to teach that the substrate is fed using a roller, which is only in contact with back surface of the substrate.

Ohno et al teach that a web substrate to be coated on one side can be moved using a roller, which is only in contact with back surface of the substrate (See column 2, lines 3-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have moved a substrate in Petersen et al in view of Kotler using a roller, which is only in contact with back surface of the substrate since Ohno et al teach that a web substrate to be coated on one side can be moved using a roller, which is only in contact with back surface of the substrate.

6. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen et al (20030104178) in view of Kotler (US 6,452,200), further in view of Tomizawa et al (US 5,985,425).

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Petersen et al in view of Kotler, as applied above, fail to teach that the conventional ink comprises a binding agent.

Tomizawa et al teach that conventional ink comprises a binding agent (See column 3, lines 47-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used conventional ink in Petersen et al in view of Kotler comprising a binding agent with the expectation of providing the desired printed deposit, since Tomizawa et al teach that conventional ink comprises a binding agent.

7. Claims 29, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen et al (20030104178) in view of Kotler (US 6,452,200), further in view of Carden, Jr et al (US 6,086,942).

Petersen et al in view of Kotler, as applied above, fail to teach that the method further includes: dissolving a compound containing a radioisotope precursor in a solvent and irradiating said radioisotope precursor to transform it into a radioisotope (Claim 29); adsorbing a radioisotope to a particulate and dispersing said particulate in said deposited solution (Claim 30).

As to claim 29, Carden, Jr et al teach that a "precursor material" which can be activated by subsequent bombardment with appropriate nuclear particles can be used instead of radioactive material (See column 3, lines 26-38).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a "precursor material" which can be activated by subsequent bombardment with appropriate nuclear particles in a radioactive solution of Petersen et al in view of Kotler instead of radioactive material with the expectation of providing the desired radioactive

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deposit, since Carden, Jr et al teach that a "precursor material" which can be activated by subsequent bombardment with appropriate nuclear particles can be used instead of radioactive material.

As to claim 30, Carden, Jr et al also teach that a radioactive fluid suitable for use in a fluid-jet printhead may comprise radioisotope dissolved in a curable or dryable solution, or it may be adsorbed onto a dispersible particulate carrier or powder that is dispersed in a curable solution (See column 3, lines 22-27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made a radioactive fluid for use in a fluid-jet print head in Petersen et al in view of Kotler with the expectation of providing the desired radioactive deposit since Carden, Jr et al also teach that a radioactive fluid suitable for use in a fluid-jet print head may comprise radioisotope dissolved in a curable or dryable solution, or it may be adsorbed onto a dispersible particulate carrier or powder that is dispersed in a curable solution.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy
Primary Examiner
Art Unit 1762

ELENA TSOY
PRIMARY EXAMINER



August 19, 2004